

**ABSTRACT**

The present invention provides an optical fiber enabling signal transmission in a wider band, which is applicable to optical transmission not only in the 1.3 $\mu$ m wavelength band but also in the 1.55 $\mu$ m wavelength band, as a transmission medium of a WDM optical communication system capable of transmitting signal light of multiple channels. The optical fiber is comprised of silica glass and has a core region along a predetermined axis and a cladding region provided on the outer periphery of the core region. The optical fiber comprising such a structure has, as the following typical optical characteristics, a cable cutoff wavelength of 1260 nm or less, a transmission loss of 0.32 dB/km or less at the wavelength of 1310 nm, and an OH-related loss increase of 0.3 dB/km or less at the wavelength of 1380 nm.